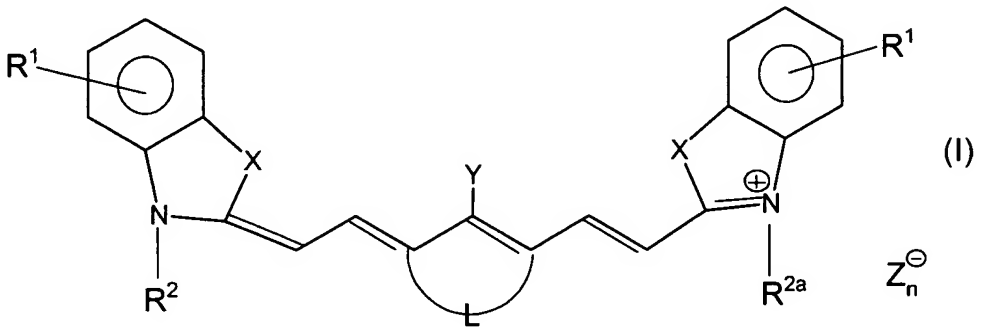
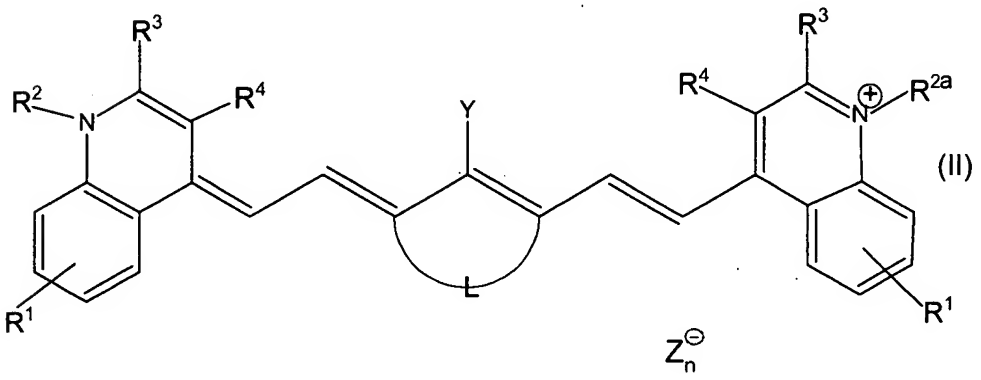
Amendments to the Claims

1-14 Cancelled.

15 (New). A process for the production of a meso-substituted cyanine dye represented by formulas (I) or (II)



(I)



(II)

wherein

each R^1 is independently -COOH, $-SO_3H$, a hydrogen atom, optionally substituted C_1-C_{12} alkyl, halogen, optionally substituted C_1-C_{12} alkoxy, $-NO_2$, -CN, or fused aromatic or heteroaromatic ring systems,

each X is independently $-CR^3=CR^4-$, -O-, -S-, $-NR^6-$ or $-CR^5{}_2-$,

each R^2 is optionally substituted C_1-C_{12} alkyl, optionally substituted aryl, -(C_1-C_{12} alkanediyl)-SO_3H or -(C_1-C_{12} alkanediyl-)COOH,

each R^{2a} is optionally substituted C_1-C_{12} alkyl, optionally substituted aryl, -(C_1-C_{12} alkanediyl)-SO_3^-, -(C_1-C_{12} alkanediyl)-COO^- or -(C_1-C_{12} alkanediyl)-$NR^6{}_3^+$,

each R^3 and R^4 are independently -COOH, -SO_3H, -$COOR^6$, -CN, -NO_2, -OH, -$NR^6{}_2$, a hydrogen atom, optionally substituted C_1-C_{12} alkyl, optionally substituted C_1-C_{12} alkoxy, halogen or aryl,

R^5 is independently C_1-C_{12} alkyl,

Z^- is Cl^-, Br^-, I^-, SCN^-, PF_6^-, SbF_6^-, AsF_6^-, aryl-SO_3^-, alkyl-O-SO_3^-, $PO_4H_2^-$, $CH_3SO_3^-$, $CF_3SO_3^-$, $(CF_3SO_2)_2N^-$, HSO_4^-, BF_4^- or ClO_4^-,

n is 0 if R^{2a} is -(C_1-C_{12} alkanediyl)- SO_3^- or -(C_1-C_1 alkanediyl)-COO^-,

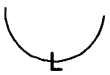
n is 1 if R^{2a} is optionally substituted C_1-C_{12} alkyl or aryl,

n is 2 if R^{2a} is -(C_1-C_{12} alkanediyl)-$NR^6{}_3^+$,

Y is -S-Ar, -Se-Ar-, -O-Ar, -NR^6-Ar, -SO_2-Ar or-(N-heterocycle),

R^6 is a hydrogen atom or optionally substituted C_1-C_{12} alkyl,

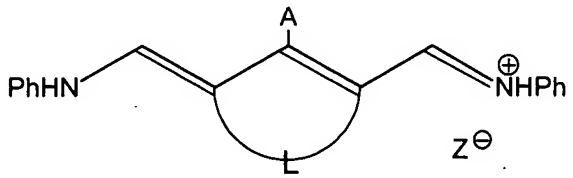
Ar is an aromatic group wherein one or more ring carbon atoms are optionally replaced by N, O or S heteroatoms, and the fragment



represents C_2-C_3 alkanediyl, optionally substituted with substituents that are the same or different selected from the grouping consisting of one or more C_1-C_{10} alkyl, C_1-C_{10} alkoxy, aryl and halogen atoms,

said process comprising the single-step reaction in an inert organic solvent miscible with water of:

(a) a dye of formula (III)



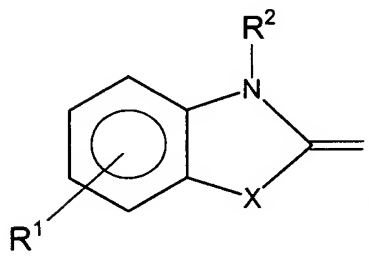
(III)

wherein A is Cl or Br and the fragment

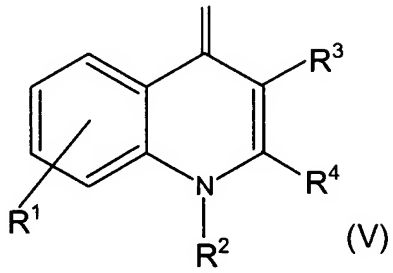
is as defined above for formulas (I) and (II), with

(b) a compound comprising:

(i) a methylene derivative of formulas (IV) or (V)



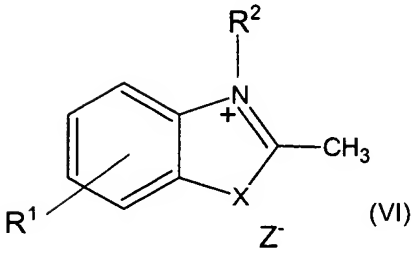
(IV)



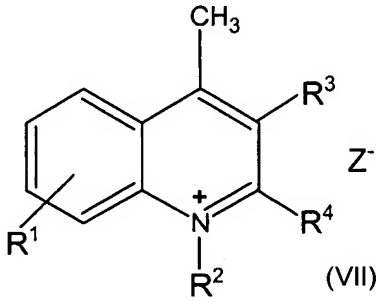
(V)

and

(ii) a quaternary salt of formulas (VI) or (VII),



(VI)



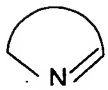
(VII)

wherein X, R^1, R^2, R^3, R^4 and Z^- are as defined in formulas (I) and (II), and

(c) a compound C comprising:

(i) aromatic and heteroaromatic functionalized compounds Ar-B,

(ii) saturated 5- or 6-membered cyclic amines  or

(iii) 5- or 6-membered heteroaromatic compounds  comprising at least one nitrogen atom as heteroatom in the aromatic ring, which nitrogen atom is bonded to the two adjacent ring carbon atoms via a single and a double bond and comprises a free electron pair

wherein

Ar represents 5- or 6-membered aryl, wherein one or more ring carbon atoms are optionally replaced by N, O or S heteroatoms,

B is $-NHR^6$, -SH, -OH, -SeH or $-SO_2H$,

R^6 is a hydrogen atom or optionally substituted C_1-C_{12} alkyl, and

the saturated cyclic amines optionally comprise an additional N, O or S heteroatom in the ring.

16 (New). The process according to claim 15, wherein the dye (III) is reacted with at least one methylene compound (IV) or at least one quaternary salt (VI) and a compound C, and a cyanine dye of formula (I) is obtained.

17 (New). The process according to claim 15, wherein the dye (III) is reacted with at least one methylene compound (V) or at least one quaternary salt (VII) and a compound C, and a cyanine dye of formula (II) is obtained.

18 (New). The process according to claim 15, wherein the fragment  is $-CH_2-CH_2-$ or $-CH_2-CH_2-CH_2-$.

19 (New). The process according to claim 15, wherein Y is -S-Ar.

20 (New). The process according to claim 15, wherein only one methylene derivative or quaternary salt is used and a dye with a symmetrical structure of formulas (i) or (ii) is obtained.

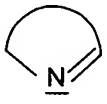
21 (New). The process according to claim 15, wherein the compound C and the dye (III) are provided in a reaction vessel and the methylene compound of formulas (IV) or (V) or the quaternary salt of formulas (VI) or (VII) is added in dissolved form.

22 (New). The process according to claim 15, wherein an alkali hydroxide is added to the reaction mixture if B is -SH, -OH, -SeH or-SO_2H.

23 (New). The process according to claim 15, wherein a quaternary salt of formulas (VI) or (VII) is used and an amount of a base equimolar to the amount of quaternary salt is added to the reaction mixture.

24 (New). The process according to claim 15, wherein the cyanine dye of formulas (I) or (II) is precipitated by the addition of a mineral acid.

25 (New). The process according to claim 15, wherein compound C is a aromatic and heteroaromatic functionalized compounds Ar-B.

26 (New). The process according to claim 15, wherein compound C is 5- or 6-membered heteroaromatic compounds  comprising at least one nitrogen atom as heteroatom in the aromatic ring, which nitrogen atom is bonded to the two adjacent ring carbon atoms via a single and a double bond and comprises a free electron pair wherein

Ar represents 5- or 6-membered aryl, wherein one or more ring carbon atoms are optionally replaced by N, O or S heteroatoms,

B is -NHR^6, -SH, -OH, -SeH or-SO_2H,

R^6 is a hydrogen atom or optionally substituted C_1-C_{12} alkyl, and
the saturated cyclic amines optionally comprise an additional N, O or S heteroatom in the ring.

27 (New). The process according to claim 15, wherein the cyanine dye of formulas (I) or (II) is subsequently subjected to an extraction.

28 (New). The process according to claim 15, wherein the cyanine dye of formulas (I) or (II) is subjected to an anion exchange.